

Professional Propulsion Systems

SYSTEM SPECIFICATIONS

ENGINE



Name:	4202HF
Manufacturer:	HIRTH ENGINES
Type:	2-cylinder
Displacement:	183 cm³
Max. performance:	11 kW at 6500 RPM
Weight:	11.5 kg
RPM range:	2500–6500 RPM
Running direction:	Clockwise

PROPELLER



Name:	28x12 2B
Manufacturer:	Mezlik
Diameter:	28 in
Pitch:	12 in
Mass:	230 g
Contact:	info@mezlik.eu

ANALYSIS



Need expert guidance on analyzing your flight performance?

Our team provides a comprehensive analysis of RPM calculations, motor and propeller efficiency, including customized propeller selection recommendations to ensure your system achieves maximum efficiency.

Please reach out to us at info@mezlik.eu or info@hirthengines.com

ID: **0097**



PERFORMANCE OF THE SYSTEM

Flight velocity

0 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	44	1.70	445	0
2750	54	2.06	593	0
3000	64	2.48	779	0
3250	76	2.94	1000	0
3500	89	3.37	1237	0
3750	102	3.93	1542	0
4000	118	4.51	1890	0
4250	134	5.19	2310	0
4500	152	5.82	2744	0
4750	169	6.58	3271	0
5000	189	7.30	3822	0
5250	209	8.11	4456	0
5500	230	9.04	5206	0
5750	255	9.93	5981	0
6000	281	10.89	6844	0
6250	308	12.14	7947	0
6500	336	13.32	9068	0

Flight velocity

10 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	29	1.72	449	63
2750	38	2.15	619	61
3000	48	2.61	819	58
3250	59	3.10	1054	56
3500	71	3.63	1330	53
3750	84	4.21	1653	51
4000	98	4.83	2024	48
4250	113	5.50	2448	46
4500	129	6.21	2928	44
4750	147	6.97	3469	42
5000	165	7.78	4075	41
5250	186	8.65	4754	39
5500	207	9.57	5512	37
5750	229	10.56	6357	36
6000	253	11.62	7302	35
6250	278	12.77	8359	33
6500	306	14.01	9539	32

PERFORMANCE OF THE SYSTEM

Flight velocity

20 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	1	0.45	117	17
2750	9	0.98	282	61
3000	17	1.54	484	70
3250	27	2.14	728	73
3500	37	2.76	1012	73
3750	49	3.42	1345	73
4000	62	4.13	1729	71
4250	76	4.87	2169	70
4500	91	5.65	2664	68
4750	107	6.48	3225	67
5000	125	7.36	3853	65
5250	144	8.28	4553	63
5500	164	9.26	5336	61
5750	186	10.30	6204	60
6000	208	11.42	7174	58
6250	233	12.62	8258	56
6500	259	13.90	9464	55

Flight velocity

30 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	-20	-0.66	-173	—
2750	-20	-0.74	-214	—
3000	-17	-0.60	-189	—
3250	-12	-0.22	-76	—
3500	-4	0.40	145	—
3750	6	1.13	443	40
4000	17	1.93	809	63
4250	29	2.78	1237	71
4500	42	3.66	1726	74
4750	57	4.57	2275	75
5000	73	5.54	2899	75
5250	90	6.55	3599	75
5500	108	7.59	4372	74
5750	128	8.70	5240	73
6000	149	9.89	6212	72
6250	172	11.15	7297	71
6500	196	12.48	8492	69

PERFORMANCE OF THE SYSTEM

Flight velocity

40 m/s

Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	-24	-1.10	-288	—
2750	-29	-1.25	-361	—
3000	-33	-1.37	-430	—
3250	-36	-1.52	-518	—
3500	-38	-1.67	-612	—
3750	-37	-1.84	-724	—
4000	-32	-1.50	-628	—
4250	-24	-0.91	-404	—
4500	-13	-0.02	-9	—
4750	-1	0.98	488	—
5000	12	2.04	1070	46
5250	27	3.15	1733	63
5500	43	4.31	2483	70
5750	61	5.52	3324	73
6000	80	6.78	4262	75
6250	101	8.11	5311	76
6500	123	9.53	6486	76

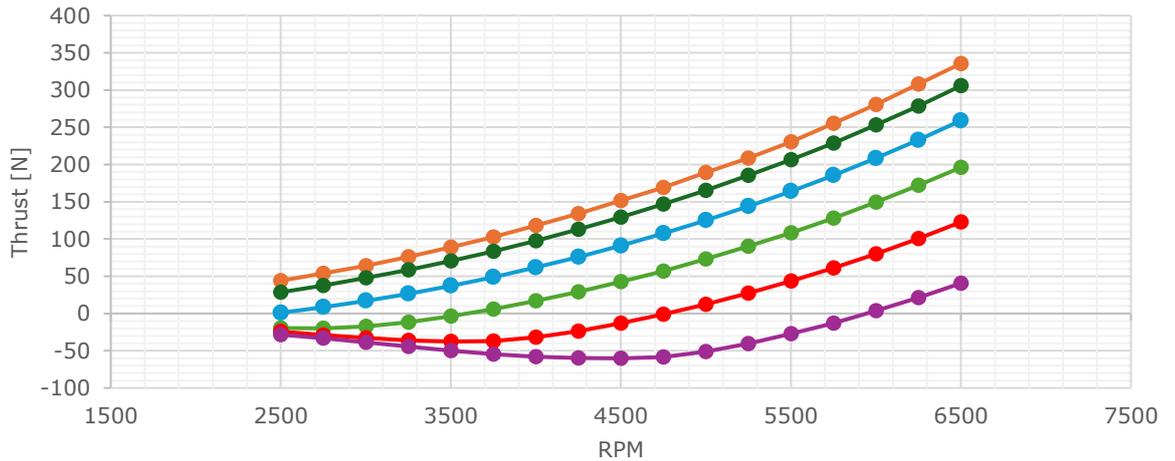
Flight velocity

50 m/s

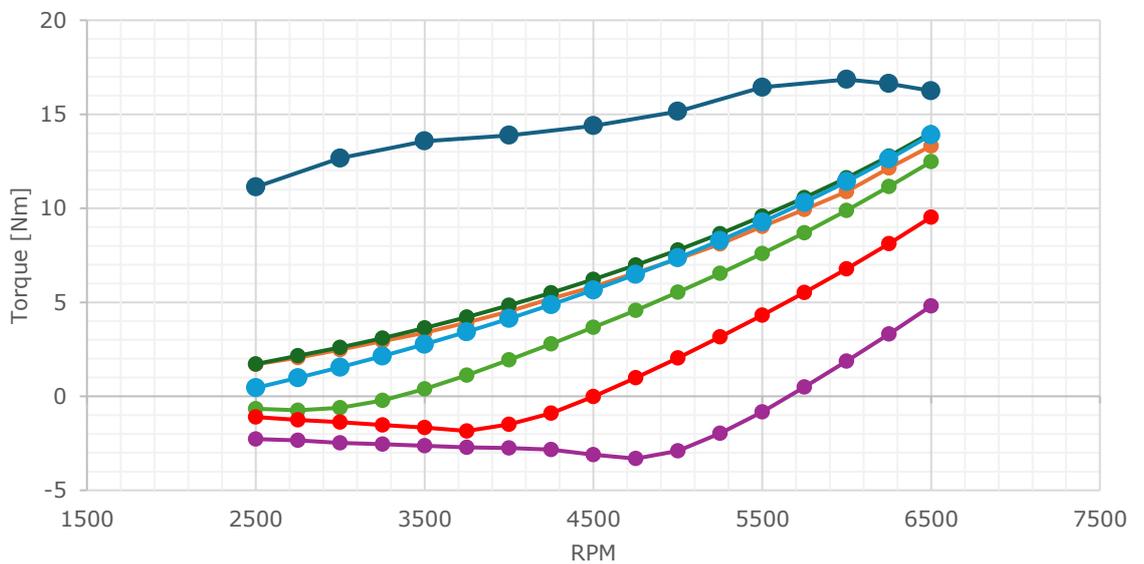
Rotational Speed [RPM]	Thrust [N]	Torque [Nm]	Mechanical Power [W]	Propulsion efficiency [%]
2500	-29	-2.27	-594	—
2750	-33	-2.34	-675	—
3000	-39	-2.47	-778	—
3250	-44	-2.54	-864	—
3500	-50	-2.63	-963	—
3750	-55	-2.72	-1066	—
4000	-58	-2.75	-1154	—
4250	-60	-2.83	-1259	—
4500	-60	-3.11	-1467	—
4750	-58	-3.31	-1649	—
5000	-51	-2.90	-1520	—
5250	-40	-1.96	-1079	—
5500	-27	-0.84	-481	—
5750	-13	0.49	294	—
6000	3	1.87	1176	15
6250	21	3.31	2163	49
6500	41	4.80	3269	62

PERFORMANCE OF THE SYSTEM

Hirth 42 series + Mejlík 28x12 Performance in flight



— 0m/s — 10m/s — 20m/s — 30m/s — 40m/s — 50m/s



— 42 Engine series — 0m/s — 10m/s — 20m/s — 30m/s — 40m/s — 50m/s

NOTE



Data presented in this product sheet are a combination of measurements of engine performance (RPM, torque), which is complemented with propeller data, simulated in Mejlík's proprietary simulation software.